

ROUTINE LIFT STATION INSPECTION AND MAINTENANCE

**City of Cahokia Heights
St. Clair County, Illinois**

January 14, 2022

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INTRODUCTION

This document has been prepared to address routine lift station inspection and maintenance procedures for the City of Cahokia Heights, St. Clair County, Illinois. The routine lift station inspection and maintenance procedures provide information on the maintenance facilities and equipment needed to inspect and maintain the City's sanitary lift stations, the timely collection and use of relevant information pertaining to the sanitary sewer system, and routine preventative operation and maintenance activities. A list of the City's sanitary lift stations and associated information is included as Attachment A. A copy of the City's Lift Station Inspection Checklist is included as Attachment B.

A. MAINTENANCE FACILITIES AND EQUIPMENT

Adequate maintenance of the sanitary sewer system relies on the availability of equipment and parts. Maintenance facilities are locations where equipment, materials and personnel are dispatched and where operations records are kept. Industry guidance recognizes that properly planned and supported equipment facilities are essential to collection system operations.

1. Equipment

The City has the following equipment assigned to the operation and maintenance of the sanitary sewer system:

- a. One Tandem Vactor Truck
- b. One Jet Router Truck
- c. One Backhoe
- d. One Dump Truck
- e. Pick-Up Trucks with Tools

2. Maintenance Facilities

The Equipment Services Division provides for the maintenance of and coordination for replacement of the City's sanitary sewer system maintenance equipment. The Equipment Services Division performs the following specific functions for the City's sanitary sewer system maintenance equipment:

- a. Perform preventive maintenance and repairs at proper intervals
- b. Evaluate, rehabilitate, and modify equipment to include minor accident damage
- c. Oversee outside fueling services
- d. Administer a repair record system
- e. Evaluate equipment replacement and administer the bidding process for purchasing new equipment
- f. Train City personnel on the proper operation of new equipment

B. USE OF TIMELY AND RELEVANT INFORMATION

Timely and relevant information plays a critical role in an effective O&M program. A dynamic O&M program focuses on planning, implementing, reviewing, evaluating, and taking appropriate actions in response to available information. The key to these approaches is the ability to get information from the field staff.

The Water and Sewer Department maintains the following databases to ensure the use of timely, relevant information. These include:

1. Wastewater collection system maps
2. Sewer system inspections
3. Manhole inspections
4. Lift station inspections
5. Manhole replacement information
6. Lift station repair information
7. Sewer replacement information
8. Sewer point repair information
9. Sewer televising data
10. Sewer lining information
11. Sanitary sewer overflow data
12. Sanitary sewer system complaint forms

C. ROUTINE PREVENTATIVE OPERATION AND MAINTENANCE ACTIVITIES

A good preventive maintenance program is one of the best ways to keep a system in good working order and prevent service interruptions and system failures which can result in overflows and/or backups. In addition to preventing service interruptions and system failures, a preventive maintenance program can protect the capital investment in the collection system.

Cahokia Heights's Sanitary Sewer Utility's Preventive maintenance activities include:

1. Routinely inspect the collection system and address defects or other problems
2. Investigate complaints and promptly correct faulty conditions
3. Provide maintenance records, an adequate workforce, and appropriate equipment in working order
4. Maintain and update a schedule of planned activities
5. Preventive maintenance activities

Sewer system inspections, including detailed manhole and lift station inspections, inspections for infiltration and inflow sources, and cleaning of the City's sewer system, are performed on an as needed basis. Manhole and Lift Station Inspection Sheets are completed for each inspection and copies are retained in the City of Cahokia Heights Water and Sewer Department.

Lift stations are inspected every other day, and operation logs are maintained for all lift stations. The lift station pumps are serviced and calibrated on an annual basis through "draw-down" tests or equivalence to verify pumping capacities. A warning light is provided on each lift station control panel to indicate malfunctioning equipment and/or alarm conditions. Portable electrical generators are available from local equipment rental sources in the event power is disrupted at any of the City's lift stations, and temporary pumps and hoses are available to bypass a lift station if necessary.

Emergency operating procedures are available for each lift station, and any lift station failures and/or overflows are responded to by Water and Sewer Department personnel. Off hour/emergency notifications are provided through the City Police Department dispatcher.

The Water and Sewer Department also regularly inspects the route of all force mains to assess force main conditions. Air release/vacuum valves are inspected and maintained on an as needed basis.

All lift station and/or force main failures are investigated by the Water and Sewer Department, and any necessary actions are implemented to prevent future failures.

The City maintains a record of all sanitary sewer system complaints received by the City and the results of their investigation/resolution. This information provides a useful tool in planning future sewer repairs and/or replacements.

Attachment A

Lift Station Information

No.	P.ump Station Name	Pump Station Location (Nearest Intersection)	Num ber,	Pump Manufacturer	Pump Horsepower
1	Cooper Dr.	Ex. 7f (Water Infra.)	2		40
2	Station 5		2		40
3	Blue Water Lane		1		10
4	DePaul		1		10
5	Donald St.		2		3
6	Edgar St.		1		5
7	Ellen Ex. 7f (Water Infra.)		2		3
8	Ex. 7f (Water Infra.) Lane		2		3
9	Lasalle Ex. 7f (Water Infra.)		1		3
10	Miskell Blvd.		2		3
11	Ex. 7f (Water Infra.)		1		5
12	Station SA		1		3.4
13	Bruce St.		2		3
14	Carol Street		2		3
15	Hissrich		2		3
16	Hutchings St.		2		3
17	100 Block of Judith		2		3
18	Margaret Dr.		1		5
19	Mississippi Ave. Ex. 7f (Water Infra.)		1		3
20	Ex. 7f (Water Infra.) & David St.		1		3
21	Mississippi Ave. & Ex. 7f (Water Infra.)		1		3
22	St Christopher		2		3
23	Ex. 7f (Water Infra.) Ellen		1		5
24	Ex. 7f (Water Infra.)		1		4
25	Paris		1		3
26	Rieber		1		3
27	Ex. 7f (Water Infra.) Kay		1		3

28	Wasington	Ex. 7f (Water Infra.)	1		10
29	King Ct.		1		3
30	Monica				
31	Ex. 7f (Water Infra.)		2	Gorman-Rupp	2.7
32	51st		2	Gorman-Rupp	7.5
33	53rd		2	KSB	3.4
34	63rd		2	Roots	5
35	71st		2	Roots	3
36	73rd		2	Roots	5
37	73rd Street		2	Roots	5
38	75th	Ex. 7f (Water Infra.)	2	Roots	2
39	75th		2	Roots	1.5
40	82nd		2	Roots	7.5
41	82nd		2	Roots	7.5
42	Beachland		2	Roots	3
43	Bridgedale		2	Gorman-Rupp	3
44	Ex. 7f (Water Infra.)		2	Flyght	7.5
45			2	Barnes	4.5
46	Creston Drive		2	Flygt	3
47	Ex. 7f (Water Infra.)		2	KSB	3.4
48	I.C. Tracks		2	Grundfos	5.5
49	Ex. 7f (Water Infra.)		2	Gorman-Rupp	3
50	Lake Drive Pill Box		2	Gorman-Rupp	3
51	Ex. 7f (Water Infra.)		2	Gorman-Rupp	5
52	Ex. 7f (Water Infra.)		2	Fairbanks Morse	5
53	Mousette Lane		2	Barnes	1.5
54	Superior		2	Crown	7.5
55	Ex. 7f (Water Infra.) Box		2	Gorman-Rupp	3
56	Ex. 7f (Water Infra.)				
57	Ex. 7f (Water Infra.)				
58	Missouri Ave.				
59	Market St.				
60	Market St.				
	. 42nd St.				

61	Ex. 7f (Water)	Jackson	Ex. 7f (Water Infra.)			
62		Pfeiffer				
63		S. 46th St.				
64		Golden Read				
65	Ex. 7f (Water Infra.)	Park				
66	Ex. 7f (Water Infra.)	& Russell				
67		hurch				

Attachment B

Lift Station Inspection Checklist

LIFT STATION INSPECTION CHECKLIST
CITY OF CAHOKIA HEIGHTS, ILLINOIS

Lift Station Name: _____
Lift Station Location: _____
Number of Pumps: _____
Pump Manufacturer: _____
Pump Horsepower: _____

Inspection Date: _____
Inspected By: _____

WETWELL:

- ☐ Inspect interior and exterior surfaces
- ☐ Check for proper access hatch operation
- ☐ Verify float system operating condition
- ☐ Inspect pump guide rails

PUMPS:

- ☐ Pull and reset pump (if needed)
- ☐ Check for ease of removal and proper sealing at disconnect flange
- ☐ Check pump chords for obstructions
- ☐ Check pump for normal operation
- ☐ Check for unusual noises and/or vibration

VALVE VAULT:

- ☐ Check sump pump operation
- ☐ Verify pressure gauges are in place (if applicable)
- ☐ Check for proper access hatch operation

CONTROL PANEL:

- ☐ Verify that wiring schematic is on file in Sewer Department Office
- ☐ Inspect enclosure for damage
- ☐ Inspect wiring
- ☐ Perform operational test
- ☐ Verify that electrical conduits are sealed
- ☐ Verify high water warning light operation

COMMENTS: _____

